

SEIJI MOTOJIMA, et al.
Application No.: 09/403,894
Page 2

PATENT

IN THE CLAIMS:

Please cancel claim 31.

19. (Twice Amended) A method of manufacturing carbon fiber coils comprising:

placing a solid catalyst within a reaction chamber;
supplying stock gas and a catalytic gas to the reaction chamber;
applying voltage to the solid catalyst to charge the solid catalyst; and
heating the interior of the chamber to grow carbon fiber coils from the stock gas, wherein an exterior of the reaction chamber is substantially free of a magnetic field during the heating.

26. (Twice Amended) An apparatus for manufacturing carbon fiber coils from a stock gas, which is subjected to thermal decomposition to generate solid carbon, and a catalytic gas, which promotes thermal decomposition of the stock gas, the apparatus comprising:

a reaction chamber, to which the stock gas and the catalytic gas are supplied through a port;
a solid catalyst located within the reaction chamber;
a power source, which is external to the reaction chamber, for applying voltage to the solid catalyst; and
a heating device for heating the interior of the reaction chamber to grow carbon fiber coils from the stock gas, wherein the heating device produces substantially no magnetic field in the reaction chamber;
wherein the catalytic gas contains at least one of sulfur compound and phosphorus compound, and the sulfur compound and phosphorus compound include thiophene, hydrogen sulfide, methylmercaptan, and phosphorus trichloride.

29. (Twice Amended) The apparatus according to claim 28, wherein the catalyst contains microcrystalline nickel.